

A Dissertation
on the causes, phenomena and treatment of
Dyspepsia,

presented to the Hon.^{ble} Medical Faculty of
The University of Pennsylvania

as an Inaugural Thesis in order
to be admitted to the degree of

Doctor of Medicine.

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Dyspepsia,

The functions of the human body have been divided into two classes. In the first are included such as serve for the preservation of the individual; and in the second such as serve for the preservation of the species. The first of these classes has been divided into two orders, the first of which includes the assimilating or digestive functions, which are also called internal functions; while the second includes the relation or external functions—those by which the individual forms connections, or sustains relations with surrounding objects.

According to the preceding arrangement, ~~the~~ physiologists assign to the digestive functions, of which the stomach is the principal organ, the first place; to which indeed the stomach seems entitled, whether we consider the importance of its own proper functions, or ~~the~~ the control, which it exercises over almost every other part of the system. Anatomists

tell us, that ^{no} ~~every~~ ~~organ~~ is universally found in animals, except the stomach, which is an incontrovertible proof of its prime importance. Hippocrates, called the stomach a great fountain, which as a sea, ~~exhausts~~ ~~renew~~ ~~itself~~, could both receive and supply from every other part.

It is the most irritable part of the body, and susceptible of the most minute distinctions in the nature of the stimulus applied to it. It is endowed by nature with the most complex properties of any organ in the body, forming a centre of sympathy, between our corporeal and intellectual parts, of more exquisite qualifications, than even the brain itself. On account of the intimate connection, which is observed between the condition of this organ and the state of the mind, and on account of the profusion of nerves distributed about its ~~exte~~

upper orifice, some philosophers have thought it to be the seat of the soul. This cannot be considered the wildest notion ^{advanced} even in physiology when it is observed how much every disorder of the nervous system, and especially those of the mind, depend on the state of the stomach.

Besides performing a very important part in the function of digestion, it exercises a sort of espionage over the whole system. The ingesta are submitted to its inquisitorial power, and are rejected, by vomiting or appropriated by digestion to some purpose according to their fitness. So ready is the stomach to take cognizance of any disturbance or disorder in the system, that our inquiries are, in most instances, first directed to it, as the registry or intelligence office of the whole system.

From the preceding and other considerations, that might be adduced, it seems more important for medical practitioners to understand ~~these~~

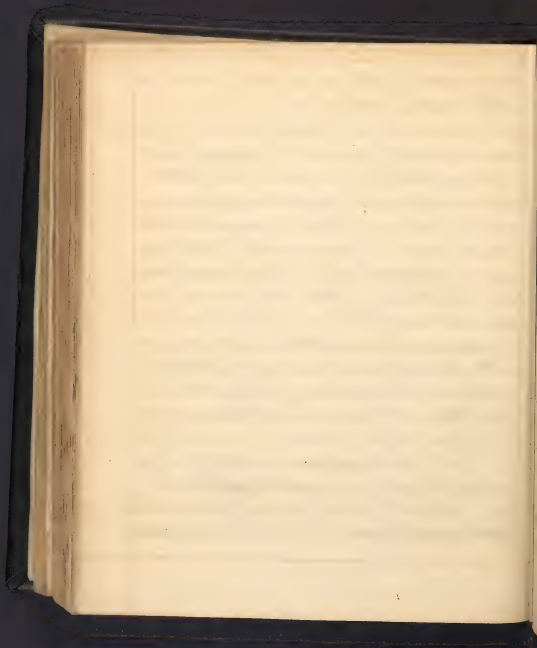
thoroughly the functions and pathology of the stomach, than of any other organ in the body. Physicians are every day assigning it a larger sphere of influence in the production and cure of diseases.

An organ, that exercises such important offices, and that is perpetually liable to injuries, which occur either as primary affections, or result from sympathy with other parts, must necessarily be subject to many and various disorders. Although apparently simple in its structure, the stomach is endowed with properties, which physiologists cannot with certainty explain, nor the most skilful chemists imitate. We may learn some of the laws by which its powers are governed; but we shall probably ever remain ignorant of the exact manner, in which they are performed.

The stomach, like every other part of the body, is liable to injuries from chemical or

mechanical agents, and to acute diseases from other causes, but its disorders are more commonly of a chronic character. A debility or relaxation of the fibres of the stomach, connected with, or produced by, a vitiated state of ~~the~~ its secretions, appears to form the principal foundation of its most frequent derangements, ~~the~~ one of which is more common, than Dyspepsia or Indigestion, which I have selected for the subject of my thesis, not on account of any novelty in it, but in order to render myself, by the investigation, more familiar with a disease, which I may frequently be called on to treat, and which sometimes baffles those, who have had extensive reading and long experience.

By the term Dyspepsia is meant a difficult, painful, or imperfect digestion. It is one of the most varied forms of chronic disorder, affecting more or less the whole system,



both mental and corporeal. It has become a very common disease, among both the indigent and affluent, although flowing, in the different classes, from very different causes. In the first it may be ascribed to the combined agency of hard labour, cold and moisture, thin clothing and the pernicious custom of drinking tea and coffee. In the latter, its most fertile sources are, errors in diet, the immoderate use of ardent spirits, a sedentary mode of life, anxiety of mind, and late hours.

In this, as in other complaints, we do not meet all the characteristic symptoms in every case, but the leading ones generally present themselves in an evident manner, or in such order and degree, as to render a correct diagnosis obtainable.

We observe in dyspepsia the following symptoms—An impaired or lost appetite, sometimes a loathing of all food, nausea,

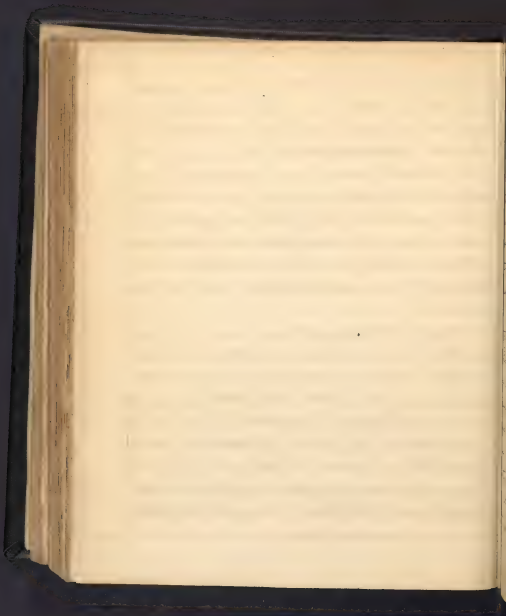


and pain in the stomach,
vomiting, especially after taking food. The
material ejected by vomiting is of various
colours, being sometimes green or yellow,
or a toughropy phlegm. There is a bitter
taste in the mouth, and the tongue, which
is always an index to the stomach, is more
or less furrowed, especially in the morning,
and on its back part. There is flatulency in the
stomach and bowels, with tension and pain in the
hypochondriack, epigastriack, and umbilical regions.
Ruminations with flatulency usually accompany borborygmi
algia is a very general symptom, and proceeds
from irritation of the nerves of the stomach by
the acrimony of its contents. It is sometimes
very violent, and occurs in paroxysms at short
intervals, after the taking in of any acid mat-
ter. The fluid ejected from the stomach has some-
times such a degree of acrimony, as to excori-
ate the parts over which it passes. Dr. Phys-
ick has related a case, where ~~the~~ it was so



great as to corrode cloth. Cardialgia is often occasioned ^{by} irritation from flatulency or distension, exciting the stomach to a spasmodic action. The bowels are ^{not} fed; the bowels are generally costive, but sometimes there is an alternation of diarrhoea; and the costiveness may be considered partly as a cause, and partly as effect. The evacuations are often but little changed from their usual colour; but, at other times, they are mucous, fetid, dark and pitch coloured.

Among other symptoms, we more or less frequently observe, sallowness, vertigo or giddiness, ringing in the ears, dimness of sight, or the appearance of insects before the eyes, general or partial tremors, palpitation of the heart, irregularity of the pulse, fluttering in the epigastrium, headache in the form of nimbus, or clonus hysterici; pains in the breast, side, and back; languor, debility,



and depression of spirits, with a sensation of
~~sinking~~ ^{sinking} or uneasiness at the praecordia; the
urine copious and pale coloured, or ^{more} scanty and
turbid, than natural. There are frequent pains
in the bowels with hæmorrhœm, and some-
times a sense of stricture in the throat,
like globus hystericus. Hypochondriasis is
so common an attendant on dyspepsia,
that some authors have thought they were
inseparably connected.

This complaint is various in its dura-
tion. Sometimes it lasts only a few hours,
and consists in a nausea and vomiting
or diarrhœa; but in general it goes on for
days, weeks, and even months. Sometimes it lasts
for years or even for life. We often see peo-
ple labouring under it, who are even corpu-
lent, and retain their colour and appetite.

Middle aged people are most liable to it,
though it may occur in persons of ten or twelve



thirty years old; and men are more subject to it than women. It sometimes disappears spontaneously. From a long continuance of it, patients become pale, emaciated, dropsical or pathological.

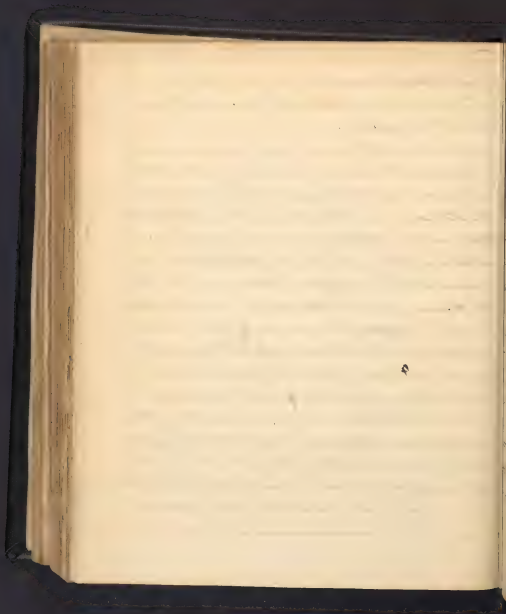
It is, for the most part, an acquired disease, although sometimes it is hereditary. Both goitre and hysteria are often connected with, or dependent on, dyspepsia. By the best pathologists of the present day, both these diseases have their ~~seat~~ primary seat or origin in the disordered condition of the alimentary canal. The organs, that constitute this canal, have the greatest influence over the nervous and vascular systems, and thereby on all the functions of the body.

The proximate cause - the ipso morbo - of dyspepsia is generally thought to be a loss of tone, atony, or inability of the muscular fibres of the stomach and intestines. The gastric



juice ~~itself~~ seems to undergo morbid changes, and is probably diminished in quantity or vitiated in quality.

The remote causes being very numerous, I shall, for the sake of perspicuity, divide them into such as act primarily and directly on the stomach; and those, which act indirectly on that organ, first injuring and enfeebling the whole system. Among the first may be enumerated tea, coffee, tobacco, ardent spirits, opium, fermented liquors, and aromatics. Both tea and coffee have a direct and specific effect on the stomach, and thence on the whole nervous system. Coffee has the same exhilarating power as tea, but it combines also a stimulant one, which operates on the sanguiferous system, and counteracts its ^{exhilarating} effects on the nervous system. Hence it may be said to be less mischievous to health, than tea. Both are, in my opinion, detrimental to all persons of



a delicate constitution. Dr. Burnie ascribes the susceptibility of taking febrile contagion to the profuse use of tea. He gives a melancholy description of the combined powers of tea and ardent spirits on the constitutions of the poor. "In the eighteen hundred cellars in Liverpool, there are many, in which animal food is not tasted more than once a week; but there are very few, in which tea and coffee are not daily drunk. Hence, the great number of dyspeptic patients at our public charities, which may almost all be traced to the use of tea and spirits, often assisted by depression of mind. ~~at~~ ^{great} majority are females." Dr. Whitt was strongly impressed with the belief in the pernicious qualities of tea, and says, that the stomach complaints and nervous ailments, as they are called, may be partly owing to the too great use of tea.

Tobacco is another fruitful source, from which



depression arises. By entering the stomach, it directly impairs its action by its narcotic power. It moreover injures the salivary glands, producing dryness in the mouth, when its use is intermitted. Dr. Darwin thought it produced a sclerosis of the pancreas. Dr. Tissot ascribes to tobacco several "bad qualities". The first is, "a waste of the spitte, and, in consequence thereof, all the biccasses, which it generates; for smokers, though they spit plentifully while they are smoking, are observed not to spit at other times; nor is this strange, for the stimulated organ, (the stimulus being removed) ceases its actions, and hence frequently a dryness of the mouth, which induces too plentiful drinking of liquors. Secondly, from the frequent irritation, the stomach and intestines are debilitated, the appetite spoiled, the spirits exhausted, nature grows sluggish, and ceases to act unless stimulated. The fourth objection is, "if



smoking induces too plentiful drinking, here is a new fountain of diseases, various according to the various liquors, but always fatal." He afterwards proceeds to say, "Is tobacco therefore of no use at all? Certainly, taken in great quantity it hurts every body and every whim; nor do some instances, in which the bad consequences have ensued but ^{very} slowly, prove the contrary; for by use we become accustomed even to poisons, the machine perishing gradually, not of a sudden". He goes so far as to say, "I never remembered a smoker like to a great age".

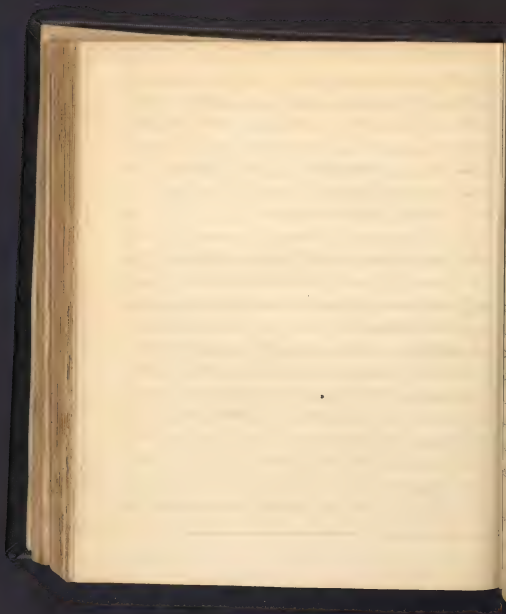
But of all the remote causes of this, the least, the use of ardent spirits is the most certain; being followed always by more or less debility. Their pernicious operation on the bodies and morals of men has been fully described by various learned Physicians. They produce flaccidity of the solids, tenacity



of the fluids, indigestion, palsy, apoplexy, hemorrhage, dropsy, &c. They generate heat and inflammation of the liver and dispose to gangrene. By occasioning debility, they produce a stagnation of the fluids, promote exhalation, and diminish absorption; and hence follow dropsies.

Opium also acts very injuriously on the stomach. Given in the form and quantity of medicine, it will sometimes produce dyspepsia, although its use be continued only for a short time. It is liable to most of the objections, which are urged against the use of tobacco. Dr. Cullen observes, that aromatics will occasion dyspepsia. Drinking much warm liquor, and taking food too hot, are hurtful to the stomach, and hence one reason for the bad effects of hot tea, coffee and soups.

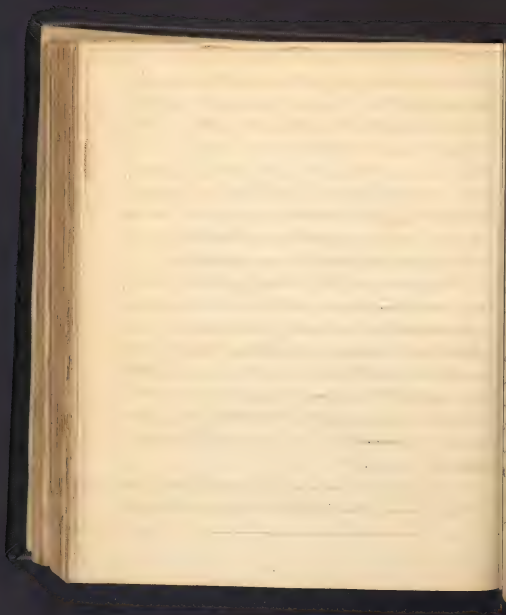
Another cause of dyspepsia is immoderate re



ption; and loading the stomach with food of difficult digestion. The injurious practice of taking early breakfasts and fasting till night, and then taking dinner and tea at one sitting, a practice usual among men of business and pleasure, will, if continued, produce diseases, to which the clasp of stomach medicines, or the salubrious waters of Bath and Cheltenham, will not be able to furnish an antidote. —

A deficiency in the biliary, gastric, or pancreatic secretions, diseases of the liver, hysteria, hypochondriasis, &c. are usually the causes or concomitants of this disease. Continual exposure to moist and cold air, and particularly cold feet, are often the causes of dyspepsia among the poorest class of society. But these should, perhaps, be ~~placed~~ placed in the second class of remote causes.

This class, I have already stated, embraces those causes, which first occasion or bring of

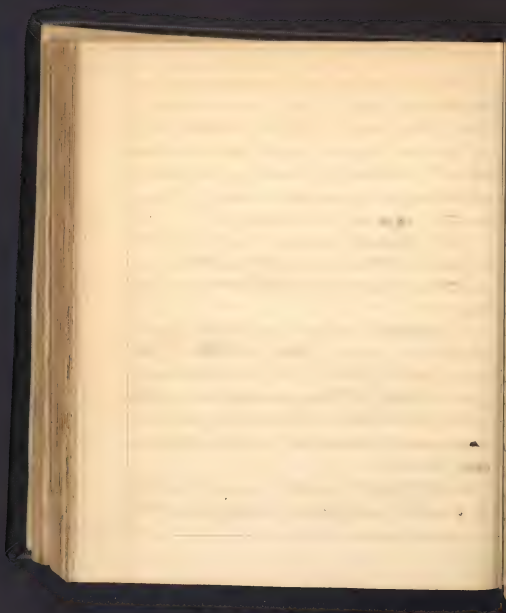


In the whole system, and afterwards that of the stomach. Such are, an indolent sedentary life, intense study, grief and viciation. Literary men are frequent subjects of dyspepsia, the idleness and solitariness of mind soon debilitates all the organs of digestion; inducing, by long duration, ~~cachexy~~ and dropsy.

The predisposing cause we believe to be a preternatural sensibility of the nervous system, and debility of the stomach and bowels.

Prognosis. Simple idiopathic dyspepsia is very rarely fatal; but ^{the symptomatic} ~~it~~ very often proves so. The former often continues many years without producing disease in any other part of the body. Sometimes, however, by its long duration, emaciation, cachexy, and dropsy, ~~are~~ induced.

The treatment of this disease is next to be considered. As dyspepsia usually presents it-



self, the first indication is to cleanse the stomach by an emetic from any cruditie, that may have collected there, and thus prepare the way for other remedies. For this purpose Ipecac is to be performed. It is sufficiently active, and, at the same time, exerts a permanent influence on the disease. It may, perhaps, be proper to repeat it two or three times, should cruditie rapidly accumulate.

We are, in the next place, to resort to mild purgatives. All saline and drastic articles should be avoided. Rhubarb, from its tonic effect on the bowels, may be resorted to with advantage, and may be combined with magnesia. Dr. Chapman says the best decoction he ever employed is a mixture of ~~sulphur~~ with calcined magnesia in equal parts. It is a certain laxative, and is best calculated for overcoming a habit of costiveness. If this mixture should be offensive to the



patient, the magnesia may be given without the sulphur.

The condition of the alimentary canal being thus rectified, we are to resort to tonics, especially the vegetable bitters; such as gentian, columbo, quassia, hops, and peruvian bark. Of these articles, the hop and quassia are to be preferred. The bark was formerly much extolled in the cure of this disease; but it has fallen into disrepute. Dr. Chapman thinks it inferior to either of the preceding articles. But the mineral tonics certainly hold a decided superiority over all others in the treatment of this disease, especially the preparations of iron. The one most frequently used is the carbonate or rust of iron. The sulphate of iron is also employed with much advantage. This appears to be the most approved mode of treating the simple cases of dyspepsia.

But with this disease, there are associates

* P Hickory ashes 1 lb.
Clean root 1 tea cup full,
Boiling water 1 gallon.

When the liquor becomes cool, decant it for
use. — Dose, a wine glassful several times
in a day. —

certain affections, which require an entirely different mode of treatment. Among these secondary affections, cardialgia is a very prominent and distressing one, arising from the collection of acid matters in the stomach. In these cases, it may not always be proper to exhibit an emetic. But there is a variety of other articles, to which we may resort; such as lime-water and milk; the alkaline and absorbent medicines, among which magnesia is to be preferred. Either of the alkalies will answer very well; but of all the remedies, the annexed prescription of Dr. Physick is believed, by those, who have employed it, to be the most efficacious in relieving that most distressing ^{affection} ~~symptom~~.

Spasm of the stomach is a frequent symptom of this disease, and ^{it} may be relieved by the remedies already detailed. It is necessary sometimes, however, to prescribe opium, ether, or some



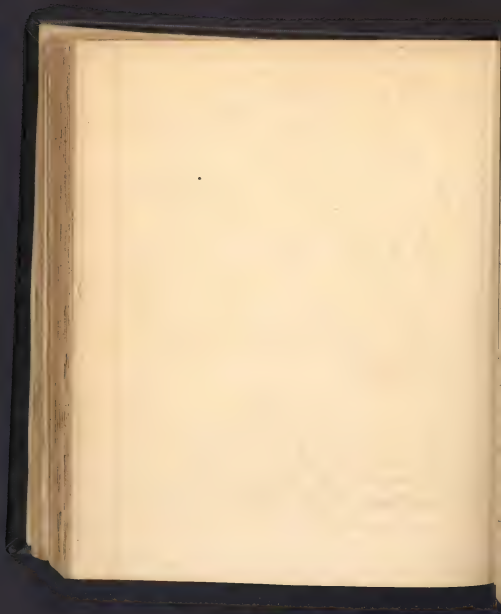
other than antispasmodic; but to all these
opium is certainly to be preferred. When the
complaint often recurs, it will be highly
proper to apply a blister to the epigastric
region. This remedy is indispensable in the
chronic, as well as in the acute diseases of
the stomach. Dr. Chapman recommends
very highly distending the stomach with
warm water. He says it hardly ever fails to
give relief. We should then have recourse
to volatile alkali, opium, &c. to prevent
their recurrence.

The whit. oxide of bismuth has acquired
great reputation in the treatment of
dyspepsia. It was originally recommended
by M. Orfer of Geneva; but some prejudice
existing against it prevented its gaining much
reputation in Europe, until Dr. Marcet, a distin-
guished practitioner of London, in a paper, which
he published, gave strong attestations of its utility.



"I have," said he, "had frequent opportunities of trying the oxyd of bismuth in spasmodic affections of the stomach; and these trials have fully confirmed the opinion, which I formerly gave of its great utility." It is also very extensively used by the physicians of New York and Boston, who report favorably of its power in all the affections of the stomach connected with dyspepsia. "The action of the substance on the stomach, is that of a mild and effectual tonic; and in pyrosis, cardialgia and gastralgia, it operates with more certainty, than any article in the materia medica." The hirsutia Dr. Chapman appreciates very highly in gastralgia.

A diseased state of the liver must be allowed a place among the remote causes of dyspepsia; but it is undoubtedly too frequently considered the primary remote cause. For although the functions of the stom-



ack may be deranged from contiguity, or
sympathizing, with other abdominal viscera,
yet in a great majority of cases, that
organ and the rest of the alimentary ca-
nal are first affected, and the hepatic
disorder is a secondary affection. Black or
dark coloured stools do not alone afford
a sure criterion for determining the ex-
istence of a diseased liver; for such chan-
ges may take place from vitiated se-
cretions from the intestines, and may easily
be removed by a few doses of cathartics, or
oil of turpentine. When the existence of a
diseased ~~state~~ of the liver is certainly re-
cognized, we should then have recourse to mer-
cury in combination with other cathartics, in or-
der to communicate a more powerful ^{stimulus} to the
stomach, bowels, and ~~alimentary~~ liver. If the
stools are of an unnatural clay-colour, in-
dicating a deficiency of bile, then mercury ~~exp~~



appears indispensably necessary; but we should be careful how we hurry ~~into~~ precipitately into the use of this article, from the mere vitiated appearance of the alvine evacuations.

As improper diet is a frequent cause of dyspepsia, the patient must be enjoined diligently to correct the errors flowing from this source, as well as from other injurious habits; such as sedentary occupations, omission of exercise, &c. To the weak and catarrhical, an improper diet is evidently a frequent remote cause of dyspepsia. For great attention cannot, therefore, be paid to the selection of that kind and quantity of food, which is the best adapted to the digestive powers. Cocoa or thin chocolate, soft boiled eggs, with a little fresh butter spread on cold ~~biscuits~~ ^{biscuits} or crackers, or a little cold porridge, or the lean of fresh red meats, will answer for breakfast. The patient, if

* Or rather bread made of unbolted meal or flour

he be fond of milk, should confine himself almost entirely to that article of diet. It is applicable both to the simple forms of dyspepsia, and to those, which are complicated with other affections, as gastrodynia, pyrosis, &c. No diet appears to be better suited to cases of water-brash, than one of milk. Dining heartily, and at a late hour, will frequently render abortive the best curative treatment. As the system is thus enfeebled and digestion more imperfectly performed, dinner should be taken at an early hour, and afterwards gentle exercise on horseback or on foot or in an open carriage. The patient may, at dinner, indulge himself in a little mutton, beef, or fowl. Vegetables should be few and of a tender kind, as rice, potatoes, &c. Dr. Chapman very highly recommends bran-bread*. All high seasoned strong meats, with heating sauces,



and wines, must be avoided. The fat of meats, pie-crusts, heavy unfermented bread, bacons rich fat puddings, dried and salted meats, acids, and all vegetables readily running into acid fermentation, are improper. Plain cold water is undoubtedly the best drink at his men. The patient should eat frequently and little at a time. "The dinner must consist of beef, mutton, the white flesh of poultry, the different kinds of game, and oysters. Neither pork, nor veal, nor goose, nor duck, nor fish, are to be allowed." The patient should abstain entirely from the use of tea and coffee. "It is a common opinion among practitioners, that soups and broths are of easy digestion; but whatever may be the case in a sound state of health, no thing is better established, than that they are inadmissible in dyspepsia. They are extremely apt to become sour on the stomach."



"In some of the more obstinate and protracted cases of dyspepsia, much advantage may be derived from remedies ^{applied} to the system generally. The warm bath, employed twice a week, is highly useful. It acts not only as a tonic, but also by inviting diseases from the surface of the body. The cold, bath in other instances, acts upon a similar principle." "Too little attention has been paid to clothing in the management of indigestion. Every practitioner must have seen how strong a sympathy exists between the alimentary canal and surface of the body. It is important to keep up the same degree of warmth on the latter part, and, for this purpose, flannel should be worn during the winter and summer." "I have already mentioned cold feet as one of the principal causes, through which this disease makes its onroad; especially when there is the slightest disposition to it, cold feet will hardly ever fail to bring it on. To guard

against such a consequence, woollen stockings should be worn, and sometimes, to irritate the soles of the feet, red pepper should be rubbed over them. Shoe makers wax, spread on leather or linen, may be used for the same purpose. This, in many cases, has relieved and sometimes altogether cured indigestion. "But what will all our remedies accomplish, unless the remote cause be removed? We should inculcate on the patient the necessity of abandoning entirely those habits and practices, which directly or indirectly tend to the production of the disease. If intemperate, he should become sober; if indolent, he is to be awakened to industry and enterprise; if studious, he is to abandon the midnight lamp; if afflicted and calamitous, he must be upheld with promises of hope, and the gilded prospects, which are before him. In the greatest emergency there is still some hope of cure, and never, in this or in any other case, surrender your patient to despair."

